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GEHC Dkt. No.: 135272 (SPLG 1041)

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REMARKS

Claims 1-33 are pending in this application. Claims 1-33 stand rejected. No new matter has been added. It is respectfully submitted that the pending claims define allowable subject matter.

Claims 1-33 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Newman (U.S. Patent No. 6,544,175) in view of Savord et al. (U.S. Patent No. 5,993,390), hereinafter Savord. Applicant respectfully traverses this rejection.

Newman describes a method for displaying a volume using interleaved ultrasound data. In particular, acquired ultrasound data includes a series of interleaved frames (abstract). An image of an entire volume is formed from a complete series of frames once acquired. The frames then may be updated with newly acquired data overwriting stored data (column 5, line 52 to column 6, line 16 and column 6, line 46 to column 8, line 53).

Savord describes an ultrasound imaging method wherein image data is acquired for volume segments allowing a complete low resolution image to be acquired in real-time, for example, for each heartbeat in a cardiac cycle. A high resolution image also may be provided by combining images of a region, for example, image data of a heart over consecutive heartbeats (column 6, lines 28-51).

Claim 1, as amended, recites a medical imaging system comprising, among other elements, "a processor coupled to the memory for initiating display of the first image data while the second image data is being acquired, and for initiating display of the first image data joined with the second image data after the second image data is acquired to form a larger overall image." Claim 26, as amended, recites a method for medical imaging comprising, among other elements, "initiating display of the first image data joined with the second image data after the second image data is acquired, the first image data and second image data defining a larger image than the first image data." The combination of Newman and Savord fails to describe or suggest a medical imaging system as recited in claim 1 and a method as recited in claim 26.

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Both Newman and Savord describe systems that generate an image that is updated based on newly acquired sub-volume ultrasound data. The acquired data is used to generate an image of a full volume such that the image appears to update continuously (Newman) or is displayed in a higher resolution after acquisition of additional image data for the region (Savord). The size of the image or region being displayed does not change, but instead, the image data is updated to generate an updated image. In contrast, the system of claim 1 initiates "display of the first image data joined with the second image data after the second image data is acquired to form a larger overall image" and the method of claim 26 initiates "display of the first image data joined with the second image data after the second image data is acquired, the first image data and second image data defining a larger image than the first image data." This incremental increasing of the size of an image is not described or suggested in Newman or Savord. The displayed image size does not change, only the state (e.g., displayed cardiac cycle) or the resolution for the imaged volume changes. There is simply nothing in either the Newman or Savord reference that describes or suggests displayed images that form a larger overall image, for example, as more scan planes are obtained. Thus, Applicant respectfully submits that the combination of Newman and Savord does not describe or suggest the medical imaging system of claim 1 or the method of claim 26.

Claim 17, as amended, recites a medical imaging system comprising, among other elements "a processor coupled to the memory for initiating display, while at least one of the second sub-region images is being acquired, of a selected first sub-region image joined with a selected second sub-region image in accordance with temporal proximity between the selected first sub-region image and the selected second sub-region image wherein the displayed first and second sub-region images being non-contiguous." The combination of Newman and Savord fails to describe or suggest such a medical imaging system.

Newman describes acquiring a series of interleaved frames. Although, the frames may be interleaved, the sub-regions are contiguous. Savord describes acquiring image data for two or more spaced apart volume segments. However, although the acquired image data may be spaced apart, there is no description or suggestion of displaying any non-contiguous portions of an image volume. In contrast, claim 17 now recites wherein the displayed first and second sub-

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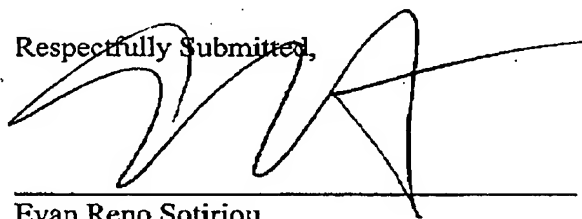
region images being non-contiguous. Thus, Applicant respectfully submits that the combination of Newman and Savord does not describe or suggest the medical imaging system of claim 17.

Claims 2-16 depend from independent claim 1, which is submitted to be in condition for allowance. Claims 18-25 depend from independent claim 17, which is submitted to be in condition for allowance. Claims 27-33 depend from independent claim 26, which is submitted to be in condition for allowance. Further, it is respectfully submitted that the dependent claims recite additional features that are neither anticipated nor rendered obvious by the prior art. Therefore, when the recitations of claims 2-16 are considered in combination with the recitations of claim 1, when the recitations of claims 18-25 are considered in combination with the recitations of claim 17 and when the recitations of claims 27-33 are considered in combination with the recitations of claim 26, Applicant submits that dependent claims 2-16, 18-25 and 27-33 are also patentable over the cited prior art.

For at least the reasons as set forth above, Applicant respectfully requests that the 35 U.S.C. § 103(a) rejection of claims 1-33 be withdrawn.

In view of the foregoing amendments and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited. Should anything remain in order to place the present application in condition for allowance, the Examiner is kindly invited to contact the undersigned at the telephone number listed below.

Respectfully Submitted,



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